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COMBINED LINE REEL AND ARROW HOLDER FOR BOWS

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FIG. 1

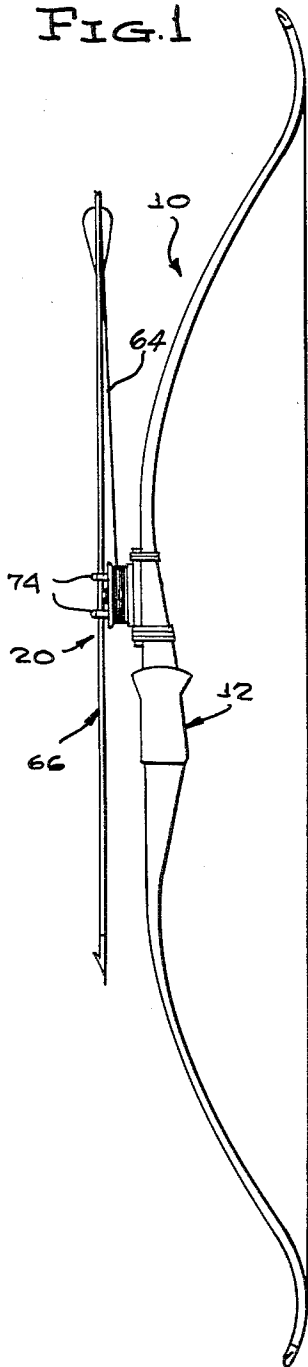


FIG. 2

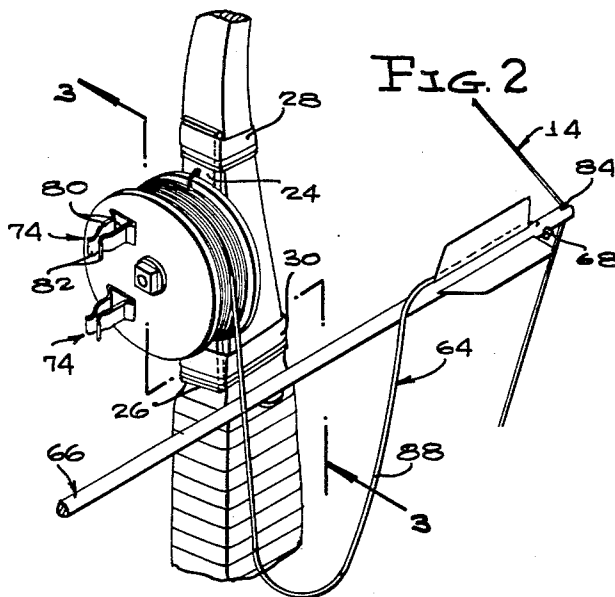
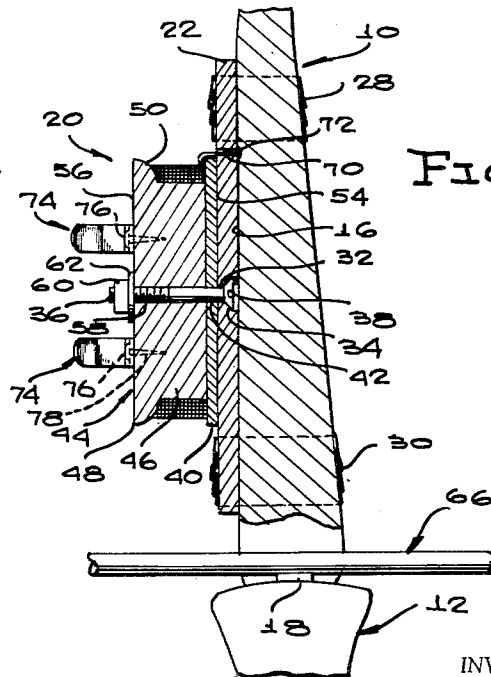


FIG. 3



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COMBINED LINE REEL AND ARROW HOLDER FOR BOWS

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10 Claims. (Cl. 124—24)

This invention relates to a combined line reel and arrow holder for bows, especially but not exclusively used in fish-spearing.

The primary object of the invention is to provide a unitary device of this kind which serves as a holder or carrier for a captive arrow and its line while a bow is being carried or stored, preliminary to being shot, with the line between the arrow and the device in a desirably taut condition, and with the arrow in an out-of-the-way position along the front of the bow where it is quickly reachable for shooting; and which serves as a spool for storing the line, which enables the line to be paid out in a free-running manner when the arrow is shot from the bow, the spool being devoid of rotating components which involve frictional resistance to paying out of the line, and wear which would reduce the useful life of the device.

Another object of the invention is to provide a practical and efficient device of the character indicated above, which is of uncomplex, rugged, and long-wearing construction, is composed of a small number of simple and easily assembled parts, and can be made in well-finished forms at relatively low cost, and which is easily attached to and removed from a bow and positioned thereon for either right-handed or left-handed shooters.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

Figure 1 is a side elevation of a bow equipped with a device of the invention, and holding an arrow;

Figure 2 is an enlarged fragmentary front perspective view showing an arrow removed from the device and in shooting position; and

Figure 3 is a further enlarged fragmentary vertical longitudinal section taken on the line 3—3 of Figure 2.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, the numeral 10 generally designates a bow, having a hand-grip 12, and a bow string 14. The bow 10 has a substantially flat front portion 16 near and above the hand-grip 12, and the hand-grip 12 can have on one side thereof at its upper end a laterally projecting arrow supporting lug 18.

In accordance with the present invention, there is mounted on the front portion 16, a combined line reel and arrow holder device, generally designated 20. The device 20 could, of course, be mounted on the bow 10 below the hand-grip 12, if desired.

The device 20 comprises a preferably flat, vertically elongated mounting plate or bar 22, having upper and lower end portions 24 and 26, respectively, which is adapted to be secured in place on the bow front portion 16 preferably by means of wrappings 28 and 30, of suitable tape or the like, which encircle the bow 10 and the upper and lower end portions 24 and 26 of the mounting bar 22.

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The mounting bar 22 is provided, preferably at its midpoint, with a bolt hole 32 extending therethrough and having a counter-sunk or chamfer 34 at its rear end. Extending forwardly through the bolt hole 32 is a bolt 36, such as a stove bolt, having a tapered head 38 countersunk in the counter-sink 34 so as not to project rearwardly beyond the rear side of the mounting bar 22.

Circumposed on the bolt 36 and bearing against the front or forward side of the mounting bar 22 is a circular backing plate or disc 40 having a central hole 42 passing the bolt 36. The disc 40 is preferably of a diameter such that related edges thereof are close to but preferably spaced inwardly from the wrappings 28 and 30, so that application and removal of the wrappings, without interference from the disc 40, is facilitated. However, where a relatively short mounting bar 22 is a consideration, the mentioned edges of the disc 40 can overlie one or both of the wrappings.

Also circumposed on the bolt 36 is a preferably solid, and relatively thick spool 44, having a cylindrical body 46 which is smaller in diameter than the disc 40, and has on its forward end an enlarged diameter line-retaining flange 48, which has a convex peripheral surface 50.

The spool 44 has therethrough an axial bore, passing the bolt 36, and flat rear and front ends 54 and 56, respectively. The bolt 36 has a threaded forward end 58 which reaches forwardly beyond the forward end 56 of the spool 44, and a clamping nut 60 is threaded thereon, with a washer 62 interposed between the nut 60 and the spool end 56. The nut 60 is tightened sufficiently to produce non-rotating frictional engagement between the rear end 54 of the spool and the disc 40, and between the washer 62 and the forward end 56 of the spool, so that the spool 44 is mounted securely in place, projecting forwardly from the bow 10, and is prevented from being rotated by the manual winding thereon or the paying-off therefrom of an arrow line 64.

The arrow line 64, of suitable composition and gauge, is of sufficient length to enable an arrow 66 to reach a desired target, when shot from the bow 10, and has one end secured to the arrow 66 at the neck end thereof, as indicated at 68, and has its other end passed rearwardly through a hole 70 provided in the upper part of the mounting bar 22, beneath the upper wrapping 28, and secured by a knot 72. The intermediate part of the arrow line 64 is wound upon the spool body 46 between the flange 48 and the backing disc 40, preferably in a helical manner from rear to front.

Mounted on the forward end 56 of the spool 44, is arrow-holding means composed of at least one vertical row of vertically spaced spring clips 74, which is located eccentrically at one side of the bolt 36. The clips 74 are preferably composed of flat bight portions 76 secured to the spool end 56, as by means of wood screws 78, and forwardly bowed and convergent legs 80 which terminate at their free forward ends in divergent lips 82, which serve both to facilitate entrance of an arrow between the legs 80 and as retainers for an arrow. The clips 74 of each row are preferably located above and below the bolt 36.

When one arrow 66 is engaged in the clips 74 it is held close to the forward end 56 of the spool 44 in a vertical position in line with and extending along the front of the bow, with the nock 84 of the arrow 66 uppermost. In order to eliminate undesirable slack in and tauten the line 64 between the nock end of the arrow 66 and the spool 44, as indicated at 86, only sufficient of the line 64 is taken off the spool 44 that when the arrow 66 is engaged in the clips 74, this part of the line will be taut or the arrow 66 can be moved slightly endwise in the clips to tauten the line.

As a preliminary to or preparatory to shooting the

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arrow 66 from the bow 10, the arrow 66 is removed from the clips 74, and with a quick motion, sufficient of the line 64 is wound off the spool 44 to provide therein sufficient slack, as indicated at 88, to provide for free manipulation of the arrow 66 to engage the same with the supporting lug 18 and engage the nock 84 with the bow-string 14, and permit free drawing of the bow-string 14 and the arrow 66, in the act of shooting the arrow 66.

As the arrow 66 is shot from the bow 10, the line 64 peels or pays-off freely from the spool 44 over its flange 48 in a free-running and substantially friction-free manner, so that the flight and aim of the arrow are not hampered.

It will be evident from the foregoing that the device of the invention serves simultaneously and cooperatively as a unitary arrow quiver and arrow line reel, and as means for tethering the arrow line to a bow on which the device is installed.

Although there has been shown and described herein a preferred form of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangements of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. A combined arrow holder and arrow line reel for a bow comprising a mounting bar, a line spool mounted on said bar, and arrow-holding spring clip means on the spool, said spool having a first end engaged with the mounting bar and a second end having an enlarged diameter line-retaining flange thereon, said clip means being on said second end.

2. A combined arrow holder and arrow line reel for a bow comprising a mounting bar, a line spool mounted on said bar, and arrow-holding spring clip means on the spool, said spool having a first end engaged with the mounting bar and a second end having an enlarged diameter line-retaining flange thereon, said clip means being on said second end, and a backing disc interposed between said first end of the spool and the mounting bar, said disc being larger in diameter than the spool, and a clamping bolt axially traversing said mounting bar, said disc, and said spool and clamping the same together.

3. In combination, a bow having a forward side, and a combined arrow holder and arrow line reel mounted and projecting forwardly beyond said forward side, said reel having a forward end, and an arrow holding clip on said forward end.

4. In combination, a bow having an intermediate portion having a forward side, and a combined arrow holder and arrow line reel mounted on and projecting forwardly from said forward side, said reel having a forward end, and an arrow holding clip on said forward end.

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5. A bow having an intermediate portion having a front side, and a combined arrow holder and arrow line reel mounted on and projecting forwardly from said front side, said reel having a forward end, and an arrow holding clip on said forward end.

6. A bow having an intermediate portion having a front side, and a combined arrow holder and arrow line reel mounted on and projecting forwardly from said front side, comprising a mounting bar, means securing said mounting bar on said front side, a spool mounted on and projecting forwardly from said mounting bar, said spool having a forward end, and arrow-holding spring clip means on the forward end of the spool.

7. A bow having an intermediate portion having a front side, and a combined arrow holder and arrow line reel mounted on and projecting forwardly from said front side, comprising a mounting bar, means securing said mounting bar on said front side, a spool mounted on and projecting forwardly from said mounting bar, said spool having a forward end, and arrow-holding means on the forward end of the spool, said arrow-holding means comprising spring clip means.

8. A bow structure comprising a bow having an intermediate portion having a hand grip thereon having ends, said intermediate portion having a forward side, and a bow-string reel secured to and extending forwardly from said forward side at one end of said hand-grip, and arrow-holding spring clip means on said reel.

9. A bow structure comprising a bow having an intermediate portion having a hand grip thereon having ends, said intermediate portion having a forward side, and a bow-string reel secured to and extending forwardly from said forward side at one end of said hand-grip, said reel being disposed with its axis normal to the said forward side and having a forward end, and arrow-holding spring clip means on said forward end.

10. In combination, a bow having a forward side, a spool on and extending forwardly from said forward side, said spool having a rear end secured to the bow and a forward end, a spring clip fixed on the forward end of the spool, an arrow removably engaged in the clip, and an arrow line wound on and secured to the spool at one end and secured at its other end to the arrow.

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